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Dated: June 19, 2006 Signature:

(Reza Mollaaghataba)

Docket No.: 0101328-0178  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Qing Hu et al.

Application No.: 10/661,831

Confirmation No.: 7713

Filed: September 12, 2003

Art Unit: 2828

For: Tetrahertz Lasers And Amplifiers Based On  
Resonant Optical Phonon Scattering To Achieve  
Population Inversion

Examiner: Van Roy, Tod T.

### DECLARATION UNDER 37 C.F.R. 1.132

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

We, Benjamin S. Williams, a citizen of the United States residing at 305 Memorial Drive, Apartment 206B, Cambridge, MA 02139 and Qing Hu, a citizen of the United States residing at 504 Worcester Street, Wellesley, MA 02481, declare as follows:

1. We, Benjamin S. Williams (Research Fellow), and Qing Hu (Professor of Electrical Engineering), are currently employed at the Massachusetts Institute of Technology located in Cambridge, Massachusetts.
2. We are co-inventors of the invention disclosed in the above-referenced pending United States Patent Application No. 10/661,831 entitled "Tetrahertz Lasers And Amplifiers Based On Resonant Optical Phonon Scattering To Achieve Population Inversion," filed on September 12, 2003.
3. We have studied an Office Action issued on March 24, 2006 in this application, and we understand that the Office Action rejects claims 1-2 and 4-26 as being anticipated by, and claim 28 as being obvious over, a paper entitled "3.4THz Quantum Cascade Laser Based on

Longitudinal-Optical Phonon scattering for depopulation,” published in Applied Physics Letters, Vol. 82, No. 7 (February 17, 2003). We are the co-authors of this article with Hans Callebaut and Sushil Kumar as well as John L. Reno.

4. We declare that, to the extent the above article discloses the subject matter described and claimed in the above-identified patent application, Hans Callebaut, Sushil Kumar and John L. Reno are not co-inventors of that subject matter.. Hans Callebaut and Sushil Kumar performed experiments under supervision of Prof. Qing Hu, and John L. Reno fabricated prototype laser samples based on design information supplied to him by Prof. Qing Hu by employing ordinary skill in the art.

5. We also understand that the aforementioned Office Action rejects claims 3 and 27 as being obvious over the above article in view of another article (herein referred to as “secondary article”) entitled “3.4 THz quantum cascade laser operating above liquid nitrogen temperature,” published in Elec. Letter., Vol 30, No. 12 on June 12, 2003. We are co-authors of the secondary article together with Hans Callebaut, Sushil Kumar and John L. Reno.

6. We declare that, to the extent the above secondary article discloses the subject matter described and claimed in the above-identified patent application, Hans Callebaut, Sushil Kumar and John L. Reno are not co-inventors of that subject matter.. Hans Callebaut and Sushil Kumar performed experiments under supervision of Prof. Qing Hu, and John L. Reno fabricated prototype laser samples based on design information supplied to him by Prof. Qing Hu by employing ordinary skill in the art.

7. We further declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

4/20/06

Dated:

Qing Hu

Qing Hu  
Professor of Electrical Engineering

4/20/06

Date:

Benjamin S. Williams

Benjamin S. Williams  
Professor of Electrical Engineering

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